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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,685	02/04/2004	Kuniaki Noda	450100-04929	4819

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FROMMER LAWRENCE & HAUG LLP
745 FIFTH AVENUE
NEW YORK, NY 10151

EXAMINER

BUKOWCZYK, JEREMY

ART UNIT	PAPER NUMBER
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3609

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/28/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/771,685

Applicant(s)

NODA ET AL.

Examiner

Jeremy Bukowczyk

Art Unit

3609

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: ROBOT AND CONTROL METHOD FOR CONTROLLING THE ROBOT'S EXPRESSIONS.

3. Claim 1 is objected to because of the following informalities: the use of the phrase "and/or" confuses the scope of the claim. The examiner suggest that applicant delete the term "or."

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 2, 6, 7, 10-15, and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Osawa (US 6,519,506 B2).

As per claims 1, 2, and 6, Osawa discloses a robot (col. 2, lines 18-19) apparatus capable of performing autonomous (col. 3, lines 23-25) motion based on inner states and/or external stimuli (col. 3, lines 32-34), comprising expression means (31) having a plurality of expressive units capable of being orthogonally expressed independently of

Art Unit: 3609

one another (col.4, lines 24-28); correlating means (30) for correlating a plurality of orthogonal states, which are based on said inner states and/or external stimuli (col. 3, lines 33-34), with at least one of said expressive units (col. 3, lines 47-53); and control means (10) for controlling said expression means for representing the plural orthogonal states in parallel, using the correlated expressive units (col. 3, lines 30-40). Osawa further discloses a control means (10) to control said expression means (31) using expressive units having parameters variably controlled responsive to each expressive element of said states (col. 4, lines 24-28). Osawa further discloses a correlating means (30) that outputs said correlation by control commands different in the priority sequence and when there is more than one command giving priority to the command with higher priority (col. 6, lines 8-14).

As per claims 7, 10-12, and 16 Osawa discloses a robot apparatus for selecting and executing at least one of a plurality of motions, comprising expression means (31) having expressive units variably controlled by a parameter (col. 4, lines 24-28); command issuing means (33) for issuing a control command on motion selection, said control command being such a one in which said expressive units variably controlled by said parameter are correlated with the selected motion (col. 3, lines 38-40); and control means (10) for controlling said expressive means by said control command (col. 6, lines 8-14); said control command having a priority sequence (col. 6, lines 8-14); said control means on issuance of plural control commands different in the priority sequence controlling said expressive means in accordance with the control command higher in the priority sequence (figure 5). Osawa further discloses a command issuing means (33)

that has a plurality of behavior stating modules (col. 6, lines 25-32) stating the motions of a robot body (col. 7, lines 2-8); said behavior stating module, when selected, issuing a control command of the priority sequence (col. 6, lines 8-14) matched to the motion of the robot body (col. 7, lines 2-8). Osawa further discloses that the control command issued by the behavior stating module selected on the basis of a command from outside (col. 3, lines 33-34) is higher in the priority sequence (col. 6, lines 8-14) than the control command issued by the behavior stating module selected on the basis of the inner state or the state of recognition (col. 3, lines 33-34). The fact that a command that results from an external factor can have priority over an internal factor is inherent to the listing of input events based on priority (col. 6, lines 8-14) as disclosed by Osawa. Osawa further discloses expression means (31) including plural orthogonal expressive means (col. 4, lines 24-28).

As per claims 13-15, Osawa discloses a method for expression by a robot apparatus (col. 2, lines 18-19) capable of performing autonomous motions (col. 3, lines 23-25) based on inner states and/or external stimuli (col. 3, lines 33-34), said method comprising a correlating step of correlating a plurality of orthogonal states, which are based on said inner states and/or external stimuli (col. 3, lines 33-34), with at least one of a plurality of expressive units, which are owned by expression means and which are capable of being orthogonally expressed independently of one another (col. 4, lines 24-28); and a control step of controlling said expression means for representing the plural orthogonal states in parallel, using the correlated expressive units (col. 3, lines 30-40). Osawa further discloses an expression means controlled by expressive elements (col.

Art Unit: 3609

4, lines 24-28) the parameters of which are variably controlled responsive to respective expressive elements of said states (col. 4, lines 28-36). Osawa further discloses a correlating step where said correlation (col. 3, lines 30-40) is output by control commands (col. 6, lines 25-32) different in the priority sequence (col. 6, lines 8-15); and wherein if a plurality of control commands different in the priority sequence are issued in said control step, the control command higher in the priority sequence is prioritized (col. 6, lines 8-15).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Osawa (US 6,519,506 B2), in view of McKinney, JR. et al. (US 2003/0004611 A1).

Osawa discloses all the claimed elements as mentioned in claim 1, and Osawa further discloses a light radiating device (col. 3, lines 20-22) and a robot having the appearance and simulating an animal (col. 13, lines 54-55) where the light radiating device is provided at a location corresponding to an eye (col. 3, lines 20-22). Osawa fails to explicitly disclose using multiple colors for expressions.

McKinney in the same field of invention discloses a robot apparatus that allows the eyes (128) of the robot (100) to express moods through different combinations of

lighting (paragraph 53). McKinney also discloses using multiple colors in the expressions of the robot (paragraph 53).

From this teaching of McKinney, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the robot apparatus of Osawa to include multiple colors for the plurality of expressions of the robot as taught by McKinney in order to allow the robot to communicate with people in a room and provide emotions (McKinney, paragraph 7).

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Osawa (US 6,519,506 B2), in view of Yamada et al. (US 2002/0081937 A1).

Although Osawa discloses all the claimed elements as mentioned in claim 1, Osawa fails to explicitly disclose an uttering means where the expressive units include two or more of sound pitch, sound volume, and rhythm.

Yamada in the same field of invention discloses a robot apparatus that outputs sound through a speaker (72) by processing tone and pitch for vocalization (paragraph 224) and also corresponds movement of the robot as shown in figures 57 and 58 based on the volume, speed, rhythm, and so on of the sound (paragraph 320).

From this teaching of Yamada, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the robot apparatus of Osawa to include a sound output or uttering means where expressive units include two or more of sound pitch, sound volume, and rhythm as taught by Yamada in order to allow the robot to generate sound (Yamada, paragraph 16) and react in correspondence with external information and sound output (Yamada, paragraph 17).

Art Unit: 3609

8. Claims 8-9 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over unpatentable over Osawa (US 6,519,506 B2), in view of Inoue et al. (US 6,442,450 B1).

Although Osawa discloses all the claimed elements as mentioned in claim 7 and 16, Osawa fails to disclose where a command is issued higher in priority than the current command, resulting in the current command being discontinued in order to implement the higher priority command. Osawa further fails to explicitly disclose re-initiating the interrupted command above once the higher priority command has come to a close.

Inoue in the same field of invention discloses issuing a command higher in priority than the current command, resulting in the current command being discontinued in order to implement the higher priority command (col. 27, lines 63-67). Inoue further discloses inherently that the interrupted command would be reinitiated after the higher priority command has come to a close in figures 25A and 25B. In figures 25A and 25B a command of higher priority is shown entering a queue resulting in the current commands being executed after the command of higher priority.

From this teaching of Inoue, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify a robot apparatus of Osawa to include stopping a current command for a higher priority command and continuing the original command when the higher priority command is complete as taught by Inoue in order to optimize positions and motions during transition (Inoue, col. 1, lines 51-55).

9. Although Applicant uses "means for" in the claims 1, 7, and 13 it is the Examiner's position that the "means for" phrases do not invoke 35 U.S.C. §112 6th paragraph. If Applicant concurs, the Examiner respectfully requests Applicant to either amend the claims to remove all instances of "means for" from the claims, or to explicitly state on the record why 35 U.S.C. §112 6th paragraph should not be invoked.

Alternatively, if Applicant desires to invoke 35 U.S.C. §112 6th paragraph, the Examiner respectfully requests Applicant to expressly state their desire on the record. Upon receiving such express invocation of 35 U.S.C. §112 6th paragraph, the "means for" phrases will be interpreted as set forth in the *Supplemental Examination Guidelines for Determining the Applicability of 35 USC 112 6¶*. (Federal Register Vol. 65, No. 120, June 21, 2000.)

Failure by Applicant in their next response to address the 35 U.S.C. 112 6th paragraph issues in accordance with 37 C.F.R. §1.111(b) or to be non-responsive to this issue entirely will be considered a desire by Applicant *NOT* to invoke 35 U.S.C. §112 6th paragraph. Unless expressly noted otherwise by the Examiner, the preceding discussion on 35 U.S.C. §112 6th paragraph applies to all examined claims currently pending.

Conclusion

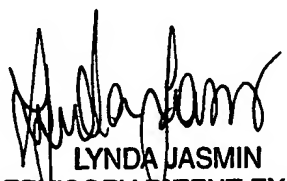
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy Bukowczyk whose telephone number is 571-270-3022. The examiner can normally be reached on Mon-Thu 6:30am-5:00pm.

Art Unit: 3609

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynda Jasmin can be reached on 571-270-3033. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jb

 2/26/07
LYNDA JASMIN
SUPERVISORY PATENT EXAMINER